EDMS – APPLICATION DESIGN REQUIREMENTS:

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1. INTRODUCTION

As part of the DCLU's five-year plan, the Department has initiated a number of re-engineering efforts. The major focus of these efforts is to examine DCLU's current business process with the goal of redesigning and improving it's ability to accept, review, issue, inspect and process development permits and enforcement actions. As a result of this effort, DCLU is seeking to automate its records management process, so that it more fully meets the demands of DCLU's current business operations. The following outlines DCLU's requirements for an Electronic Document Management System (EDMS).

1.1 DCLU PROJECT INTRODUCTION

DCLU desires an Electronic Document Management System (EDMS) to perform the storage and retrieval of active and historical documents.

The project in broken into four phases:

- **Phase I – Microfiche Replacement**, will focus on capture, storage and retrieval of documents already processed and stored in microform or in paper formats.

- **Phase II – Project File,** will expand the EDMS system to allow for capture, storage and retrieval of supporting documentation. DCLU anticipates starting with documents submitted in support of development permit applications (i.e. Active Building Files) and expanding over time to other DCLU project types (i.e. Project Planning, enforcement actions, Licensing)

- **Phase III – Online Review**, will expand the EDMS system to allow for the capture, storage, retrieval, and online review of "e-size" plans submitted during the review process. DCLU anticipates starting a pilot project soon after the implementation of Phase II (i.e. Mechanical Review section).

- **Phase IV – Other Application Types**, will expand the EDMS system to other lines of business within DCLU, such as Human Resources, Correspondence Tracking, and Accounting.

2 TECHNICAL REQUIREMENTS

2.1 CLIENTS, APPLICATION SERVERS, AND DATABASE

DCLU's current minimum workstation configuration:

Processor	300mhz
RAM	64 mb
Hard Disk	6 gb
OS	Windows 95
Monitor	17"

DCLU Standard Desktop Software consists of:

Office Automation	MS Office 97 pro
Email	Groupwise v5.5
Faxing	Rightfax v6
Browsers	IE v5

2.2 MAIN APPLICATION (HANSEN LAND MANAGEMENT SYSTEM)

This DCLUs current Permit Tracking System is being replaced with Hansen Information Technologies Land Management System. The purpose of this system is to track information and status on all development and land use permits, and all code violation cases. The Hansen application is a client server application utilizing Oracle v8.03, as it's relational database running on Microsoft NT.

For more information on the Hansen System

Contact:	Bob Benstead @ 1-800-821-9316
Web Site	Www.hansen.com

2.3 LAN / WAN ENVIRONMENT TYPE

The current LAN is TCP/IP and is comprised of Cisco 1900, 2820, and 2924 Fast Ethernet switches. The Network Operating Systems is Novell v4.12. DCLU anticipates migrating to Novell v5.1 in 1Q2001.

2.4 INTRANET / INTERNET

The department has actively pursued using the Internet as a means of communications with it's customers. DCLU currently has a number of applications on the City's Public Access Network (PAN) that provides DCLU customers the ability to access permits application status information, access enforcement action status information, and apply for selective permits and schedule permit inspection.

The department has actively pursued the development of an Intranet for internal communications and information sharing. DCLU current Intranet is configured using MS IIS running on a Compaq Proliant 1600 Server w/512 RAM

3 EDMS CAPTURE REQUIREMENTS

Documents received by DCLU, currently are paper-based and range in size from 3 x 5 to **E-size**, although the majority of documents received are 8 ½ by 11.

Documents in folders, excluding E-size, may be both simplex and duplex. An inventory of DCLU files found the following estimates:

- 50% of the forms/information in the file are supporting documents from outside sources,
- 35% of forms in the files are internally generated and filled out by DCLU staff,
- 10% of the forms in the files are internally generated by DCLU and filled out by applicant,
- 5% of the file are comprised of other items (e.g. photos, videotapes (limited), maps, and negatives).

3.1 EDMS Volumes

The Project input requirements are divided into phases.

Phase I (Microfilm Replacement)

Volumes for **Phase I** are estimated at 12,000,000 pages for backfile conversion, as follows:

- Jacketed Microfiche (9,000,000 image pages) (Permit Files),
- 16 mm Microfilm (1,500,000 image pages) (Permit Files),
- Jacketed Microfiche (500,000 image pages) (Soil Reports),
- Paper based files (1,000,000 pages).

Backfile conversion will either be scanned: direct from microform media, from paper resulting from microform blown back, or from paper files**.**

Initial system setup will include the conversion of **2.5 million images** from microfiche, which correspond to the number of active project property sites within the Hansen System at the time of EDMS implementation. The remaining historical conversion will occur on demand. Anticipated daily volumes could be up to **17,000** images from microfiche per day.

Phase II (supporting document project files)

Phase II document capture will occur in three stages:

- Stage one will be the initial project application intake, which will consist of an average of **10** pages per project. With daily volumes estimated at **800** pages (80 new projects per day).
- Stage two will be the intake of applicant-submitted documents and DCLU created documents during the application review process. The capture of these documents will consist of scanning and/or uploading of native document formats. Daily intake volumes are estimated at **400** pages of new applicant-submitted documents and another **200** pages created by internal staff.
- Stage three will consist of the input of the documents and plan sets at permit issuance. Daily intake volumes are estimates to be **25** permits and plans sets per day. With an average **10** "e-size" sheets per plan set.

Phase III (Online Plan Review)

Is a continuation of Phase Two, with the capture of plan sets occurring at project intake, as well as revised plans being submitted throughout the life of the project. The capture of these documents will consist of scanning and/or uploading of TIFF images.

Phase IV (other Lines of Business)

Once the system has been successfully implemented, DCLU will explore other areas to expand the system.

3.2 EDMS SCANNING REQUIREMENTS

For Phase One through Three, ten scanners are estimated to be required.

- One medium volume scanner in the Applicant Service Center (DCLU Intake Center), for capture of applicant-submitted documents.
- Two medium volume scanners in the Review and Inspection Center for the capture of applicant-submitted documents in later stages of the review process.
- Five low volume scanners in selected workgroup areas.
- One E-Size Scanner in the Records Center.
- One Microfiche scanner in the Records Center for the conversion of microfiche to images over time.

The above scanners should be able to handle:

- 3x5 to 8.5x14 documents
- duplex documents
- sheet feed with bin capacity of up to 500 pages
- document thickness from standard page width to lighter.

Microfilming at time of scan is not a requirement for Phase II active files as these documents will be microfilmed as projects are completed (date permit is issued)

Hours of scanning operation will be from 9:00 a.m. to 5:00 p.m., 5 days a week.

3.3 EDMS ELECTRONIC INPUT REQUIREMENTS

Electronic files may be uploaded from DCLU client workstations, either from file or from the native application. File format may include Word, Excell, Visio, MS Project, and other Native File Format Documents.

Hours of electronic input will be 24 hours a week, 7 days a week.

3.4 EDMS COMPRESSION AND FORMAT REQUIREMENTS

The desired requirement for image compression is 200/300 DPI, Group 4, and Lossless. The image file format requirement is TIFF. Documents uploaded (other than TIFF) need to be stored in their native format, which may include TIFF, AutoCAD, HTML, Visio, Word, WordPerfect, Excel, PowerPoint, and ArcView.

3.5 EDMS BACKFILE CONVERSION REQUIREMENT

Backfile conversion requirements include documents stored in Microfilm, Microfiche, and Paper. The Microfiche system began in approximately 1974. Records stored on Microfilm and Microfiche date back to 1894.

Other documents (e.g. enforcement files) stored in paper based files also need to be converted. These paper-based documents range in size from 3 x 5 to 11 x 14, but may include E-size.

Backfile conversion volumes are estimated at **12,000,000** pages for backfile conversion, as follows:

- Jacketed Microfiche (9,000,000 image pages) (Permit Files),
- 16 mm Microfilm (1,500,000 image pages) (Permit Files),
- Jacketed Microfiche (500,000 image pages) (Soil Reports), and
- Enforcement Paperbased files (1,000,000 pages).

Conversion scanning alternatives being considered for Microfiche and Microfilm are to

1.) Blow back to paper (size can range from 8 ½ by 11 (permits and related documents) to 11 by 17 (plans) and then scan

or

2.) Capture images directly from Microfiche and Microfilm media (Microform Scan).

Conversion of existing historical microfilm and microfiche will occur in the following manner:

- Initial system setup will include the conversion of **2.5 million images** from microfiche, which corresponds to the number of active project property sites within the Hansen Land Management System at the time of implementation.
- The remaining historical conversion will occur on demand with predetermined triggers. Anticipated daily volumes could be up to **17,000** images from microfiche per day.

The timeline for the above conversion will be determined by the process chosen as well as related costs.

It is important to note, that before any documents will be scanned into the EDMS system the quality of the Microfilm, Microfiche or Paper document *will need to be examined by DCLU, and adjustments to scanning settings may need to be made.* Index verification of EDMS records to the Hansen System will need to take place after scanning at a system level

4. EDMS INDEXING REQUIREMENTS

Initially, the following indexes will need to be captured. This applies to all documents entered into the system. EDMS indexes will be captured through barcodes, OCR/ICR, uploaded, or manually entered. This will include recognition/entry of indexes listed in batch/document index cover sheets.

Project Number (primary, link to Hansen Land Management system)	Manually Enter or via barcode
Address	▪ Active projects will have the address load electronically via Project Number link with Hansen Land Management System ▪ Converted documents (paper/Microform) will require the address to be manually entered and verified via a Project Number link with the Hansen Land Management System
Project Type	Active project will have the project type load electronically via Project Number link with Hansen Land Management System
Document Category	Loaded electronically based on document type
Document Type	Loaded manually
Date/Time Captured	Load automatically
Number of Pages per document	Load automatically

The EDMS should support the following indexing abilities:

- To store indexes in an Oracle database
- To assign atleast 20 indexes per document
- To support index lengths up to 230 characters
- To expand the number of index in the future
- To enter indexes manually
- To gather and assign indexes electronically
- To index documents when uploading a document via a Native File Format Application
- To index through OCR/ICR recognition
- To Index through barcode recognition

5. EDMS VIEWING REQUIREMENTS

The number of EDMS users is estimated at 300 occasional users and 150 concurrent.

The EDMS system must support the ability to:

- View documents ranging from 3x5 to “E-size” drawings
- Support the manipulation of documents via pan, zoom, birds-eye view, thumbnail, and scale
- Rapidly manipulate large raster documents
- Viewing of Native File Documents (word, Excell, etc…) using a EDMS viewer or by launching the Native Application
- Launch multiple viewers each showing different documents and/or pages
- Navigate to a specific page within the document.

The EDMS must support both thick and thin client viewing of documents.

6. EDMS ANNOTATION REQUIREMENS

EDMS must have the ability to annotate documents and provide the following functionality:

- Sticky note, direct markup on image (type, lines arrows), and stamps.
- Store multiple annotation (5-60) per document.
- Annotation audit trail / log (user, date, time of annotation).
- To turn annotation view on and off.

7. EDMS DOCUMENT RETRIEVAL REQUIRMENTS

Retrieval of documents stored in the EDMS will occur in the following manner:

- Direct access to documents via an keyword word searches of the document indexes (EDMS search screen)
- Via an EDMS link with the Hansen Land Management System. It is expected that a user within the Hansen system will be able to retrieve and access all project-related images and documents via an icon on the Hansen desktop.
- For the public, direct access to documents via a keyword search screen utilizing an EDMS thin client search screen.

The EDMS system must support the following search capabilities:

- The ability to search via any combination of key indexes
- The ability to search on ranges
- The ability to perform partial match searches
- The ability to support search strings (e.g. and, or, not etc…)

It is desirable that the EDMS have the capabilities to:

- Save a search criteria for a future request
- To support advanced search without the use of scripting

The EDMS should support the following folder capabilities:

- The ability to establish a hierarchical structure within a folder type. (e.g. folder-sub folder-document-page)
- Folder and sub folder orientation shall be assembled by the indexes defined to the document. (e.g. the document type index may define which sub folder the document is placed in)
- The ability to assemble/retrieve an average of 50 pages per folder to a over 1000 pages. (including “E” size images)

8. EDMS OUTPUT REQUIRMENTS

8.1 EDMS PRINTING REQUIREMENTS

The EDMS should support the ability to print to any LAN connected printer

8.2 EDMS FAX OUT REQUIREMENTS

The EDMS should support the ability to fax document via the City’s Rightax fax server. Fax out from the EDMS is estimated at 1 % per year of current yearly volumes and ½ % of post-current year transactions. Documents will be faxed from the DCLU LAN but may in the future, be faxed from anywhere over the City wide LAN/WAN.

8.3 EDMS ELECTRONIC OUT REQUIREMENTS

The EDMS should support the direct output of documents and images to alternative storage (disk, CD-ROM, tape), as well as supporting the transmission of these documents and images via Email attachments. The EDMS should also provide the ability to convert outputted documents and images to TIF and/or PDF.

9. EDMS WORKFLOW REQUIREMENTS

Initially, other than scanning and indexing there will be limited workflow requirements. DCLU anticipates using the Hansen Land Management System to handle its workflow requirements.

10. EDMS MICROFILM REQUIREMENTS

Compliance with Washington State RCW will require that require DCLU to develop Microfilm of selective document for the Washington State Archives. To support this requirement DCLU will need to output selected documents from the EDMS to Microfilm. It is anticipated that the Microfilm will be captured at the closure of Hansen Projects.

11. EDMS RETENTION REQUIREMENTS

At project closure, documents not required for operational, retention, and archival purposes will need to be purged from the system.

12. EDMS SECURITY REQUIREMENTS

The EDMS security capabilities shall include the ability to

- Assign security levels by users and group.
- Assign user and group level rights to view, annotate, upload and scan documents.
- Assign user and group level right to output (fax, print, download) security levels.
- Establish user and group level rights per application/document type. (i.e. Permitting, Human Resources, Accounting)

13. EDMS TRANSACTION STORAGE REQUIREMENTS

Storage requirements for documents and related indexes up to 6 years for active project folder/documents. At the closure of a project, documents not required for operational, retention, and archival purposes will need to be purged from the system. Remaining documents life is expected to be permanent.

Access to EDMS documents will be throughout the storage period. DCLU is open to a discussion of magnetic or magnetic/optical storage strategies. A Hierarchical Storage Manager (HSM) will be required.